

6th, Iowa, Mass., Ohio, Utah, Me. 7th, Iowa, N. Y. 8th, N. Y. 11th, Fla. 12th, Fla. 13th, Iowa, Neb., Cal., Miss., Fla. 14th, Tenn., Ky. 15th, Conn., W. Va., N. C., N. Y., Fla., N. H. 16th, Iowa, Me., R. I. 17th, Ill., Ind., Ga., S. C. 18th, Ind., Mass., S. C., Pa., Ala., N. Y., La. 20th, Ill. 22nd, Ind., Mo., Ohio, Me., Ala. 23rd, Mich., Ohio, Ky., R. I. 24th, N. J. 25th, Ill., Mich., S. C., Fla. 26th, Ohio, Dak., S. C. 27th, N. C. 28th, Iowa, Neb., N. C., S. C. 30th, N. Y., Ohio, Ind., Minn., Dak.

Lunar halos were observed on the 1st, Ill.; 3rd, Va.; 6th, Utah; 10th, Mo.; 14th, Ind., Mo., Nev.; 15th, Ind., N. C., Va., Ohio; 16th, Va., Conn., Minn., Texas; 17th, Ind., Ohio, Tenn., Ky., Texas; 18th, Del., Pa., N. J., Va., Ohio; 19th, N. C.; 20th, Me., Fla.; 21st, Tenn., Mo.; 22nd, Ind., Va., S. C., Ky., Ohio, Minn., Tenn.; 23rd, Ohio, Mass., Ky., Ind., R. I., Minn., Va.; 24th, Ind., Ohio, Tenn., Minn., Kan.; 25th, Ill., Mass., S. C., Dak.; 26th, Pa., Tenn., Ky., N. C., Ala.; 27th, N. C., Mo., Ohio; 28th, Ky., Neb., Pa.; 29th, Can., Ohio, N. C., Va., Conn.; 30th, Dak.

Mirage was observed at Westport, Mass., 15th; Genoa, Neb., 31st; about 12 or 15 miles from Denver, Col., down the valley of the Platte, 30th; Denver, Col., 29th, 30th, 31st; Duluth, Minn., 14th; New London, Conn., 13th; Tybee Island, Ga., 26th, 27th, 28th.

Rainbows.—Four were observed at Vevay, Ind., on the 5th. "The rainbow proper presented a full and well-defined arch, extending from horizon to horizon; interior were three well and sharply-defined images, the breadth of each decreasing towards the centre. The exterior ring was but faintly defined in prismatic colors. It is noteworthy that not a drop of rain fell during the occurrence."

MISCELLANEOUS PHENOMENA.

Zoological—*BOTANICAL*.—Harvesting began as follows: *Barley*, 6th, Monticello, Iowa; 11th, Oregon, Mo. *Oats*, 13th, Cresswell, Kan.; 18th, Jacksonburg, Ohio; 19th, Oregon, Mo.; 20th, Wappinger's Falls, N. Y.; 20th, 21st, Riley, Kan. *Rye*, 2nd, Oregon, Mo.; 6th, Monticello, Iowa. "Heat, (winter,) 2nd, (spring,) 16th, Oregon, Mo.; 12th, Nichols, N. Y.; (spring,) 13th, Cresswell, Kan.; (spring,) 21st, Monticello, Iowa. *Hay*, 3rd, Monticello, Iowa, and Oregon, Mo.; 11th, Palermo, N. Y.; 14th, New London, Conn.; 19th, Jacksonburg, Ohio.

FRUITS—Blooming and ripening, are reported as follows: *Blackberries*, ripe 4th, Independence, Kan.; 7th, Vineland, N. J.; 12th, Wappinger's Falls, N. Y.; 21st, Jacksonburg, Ohio. *Cherries*, ripe, 4th, Cornish, Me.; 12th, West Charlotte, Vt. *Currants*, ripe, 6th, Wappinger's Falls, N. Y. *Peaches*, ripe, 6th, Independence, Kan.; 16th, (two weeks late) Carbondale, Ill. *Raspberries*, ripe, 1st, Monticello, Iowa; 4th, Jacksonburg, Ohio. *Apples*, ripe, 7th, Vineland, N. J.; 12th, Fort Madison, Iowa; 18th, Oregon, Mo.; 21st, Wappinger's Falls, N. Y. *Watermelons*, ripe, 16th, Carbondale, Ill. *Figs*, ripe, 4th, New Orleans, La. *Apricots*, ripening, 13th, Oregon, Mo.; ripe, 20th, Wappinger's Falls, N. Y. *Gooseberries*, ripe, 19th, Wappinger's Falls, N. Y.

FLOWERS AND TREES.—*Tiger Lilies*, blooming, 14th, and *Common Lilies*, 16th, Monticello, Iowa. *White Elder*, flowering, 5th, Cornish, Me. *Purple Vervain*, flowering, 1st, and *Common Milkweed* and *Pleurisy Root*, 2d, Oregon, Mo. *Sweet Elder*, blooming, 2d, Palermo, N. Y.

BIRDS.—9th, Contoocookville, N. H., *Quail* heard—uncommon occurrence, happening not more than once in a season.

INSECTS.—*Katy-dids*, first heard, 12th, Anna, Ill.; 22d, Ringgold, Ohio; 26th, Hennepin, Ill. and Bethel, Ohio; 28th, Plattsburgh, Neb. and Bloomfield, Wis.; seen hatching, 18th, Wappinger's Falls, N. Y. *Chintz Bugs*, 15th, very numerous at Guttenburg, Iowa; "destroying thousands of bushels of wheat," Wautoma, Wis., damaging wheat, which yields only two-thirds of average crop. *Harvest Flies*, 19th, Oregon, Mo., casting pupae coat; 25th, Woodstock, Vt.; 26th, Somerset, Mass. *Fireflies*, 21st, last seen at Linden, N. J. *Mass Flies*, 15th, Ringgold, Ohio. *Grasshoppers*, Dakota Ty., Morriston, destroying crops, 6th and 21st; Yankton, flying west and northwest, 3d, southeast, 17th and 28th. Nebraska, Genoa, flying north, 5th, 6th, 7th, 11th, 12th, 13th, 21st, 22d and 25th, descending, 29th, flying south, 30th and 31st; Plattsburgh, flying north, 22d to 27th; none lighting; Clear Creek, flying southeast, 1st, northerly, 3d, 4th, 5th, 6th and 7th, lighting, 9th, flying north, 10th, 12th, 13th and 14th, lighting, 15th, flying, 22d, 23d, 28th, 29th and 30th. During the month they have injured wheat crop, three-fourths, barley, one-half, oats a small percentage, corn but little. North Platte, 3d, a few flying westward; Omaha, an immense swarm flying northwest, 11th, 12th and 31st, none lighting. Minnesota, St. Paul, flying southeast, 20th. Dakota, Bismarck, flying from southeast to northwest, 21st and 24th; north, 25th, 26th and 27th; abundant on ground, 28th and 29th; destroying wheat, 31st. Minnesota, Breckenridge, flying north and northwest, 3d, 4th, 6th, 11th, 13th, 14th, 19th, 20th, 22d and 30th; some damage done during month. Kansas, Fort Larned, flying north, very high; Cresswell, flying from northeast to southwest; Denver, on the 31st, reports no flying grasshoppers yet and the native ones doing no damage. Missouri, Oregon, beginning to fly, 1st, flying south,

8th, northwest. 12th. Iowa, Council Bluffs, flying, 21st and 22d, resting, 23d; Fort Madison, flying high, not lighting, 29th, 30th and 31st; Boonsboro, flying north, 21st; Vail, leaving, 10th, lighting and devouring buckwheat, green oats, &c., 29th and 30th, all left in a hocky, 31st, little damage. *Locusts*, (red-legged,) Michigan, Oakland and Iona counties, damaging crops, 6th. Utah Territory, flying south and east, 26th, lighting, 27th, 28th, 29th and 30th, "millions," 31st. Nebraska, North Platte, 31st, reports the absence of Rocky Mountain Locusts.

Polar Bands.—1st, Carthage, Ohio. 3rd, Wytheville, Va. 4th, N. H. 5th, Wood's Holl, Mass. 8th, Wytheville, Va. 9th, Iowa City, Iowa. 11th, Gardiner, Me., Iowa City, Iowa. 12th, Wytheville, Va., Wood's Holl, Mass. 13th, Iowa City, Iowa. 14th, Iowa City, Iowa. 15th, Jacksonburg, Ohio. 17th, Tabor, Iowa, Freehold, N. J. Iowa City, Iowa. 18th, Gardiner, Me. 22nd, Auburn, N. H., Freehold, N. J., Carthage, Ohio. 23rd, Gardiner, Me., Duluth, Minn. 25th, Jacksonburg, Ohio. 27th, Carthage, Ohio. 28th, Guttenburg, Iowa, Iowa City, Iowa. 30th, Carthage, Ohio, Wytheville, Va.

Sunsets.—The characteristics of the sky, as indicative of approaching fair or foul weather, have been observed daily, at sunset, at all Signal Service stations. The monthly means from 95 stations show that 52 doubtful cases or blanks were recorded, and that out of the remaining 2,867 cases 2,309 or 80.5 per cent. have been followed by the expected weather.

Marsh Fires, reported as prevailing during the month in Eaton Co., Michigan.

Forest Fires near Bangor, Me., 24th; at Sacramento, Cal., from the 24th to the 31st; Stockton, Tex., 13th.

Meteors.—Were observed as follows: 1st, Gilmore, Tex.; Savannah, Ga. 2nd, Monticello, Ia.; Spartansburg, S. C., "blazed out in the zenith; passed rapidly westward and exploded about 30° above the horizon, separating into many pieces;" Asheville, N. C.; Savannah, Ga.; Fayette, Miss. 4th, Woodstock, Md.; Waterburgh, Vt. 6th, Monticello, Ia. 7th, Como, Ill.; Wappinger's Falls, N. Y. 8th, Brookhaven, Miss.; Mt. Auburn, Ohio; Savannah, Ga. 9th, Asheville, N. C. 10th, Woodstock, Md.; Atco, N. J. 11th, Leavenworth, Kansas. 12th, Monticello, Iowa; Detroit, Mich.; Montgomery, Ala.; Savannah, Ga. 15th, Woodstock, Md.; Carthage and Jacksonburg, Ohio; Cape Lookout, N. C. 20th, Wytheville, Va. 22nd, Chambersburg, Pa. 23rd, Sacramento, Cal. 24th, Council Bluffs, Iowa; Duluth, Minn. 25th, Vevay, Ind.; Woodstock, Md.; Tybee Island, Ga. 27th, Brookhaven, Miss.; Savannah and Tybee Island, Ga.; 28th, Vevay, Ind.; Hector, N. Y.; Mt. Auburn, Ohio; Boise City, Idaho. 29th, Afton, Iowa; Brookhaven, Miss.; Tybee Island, Ga.; Corsicana, Texas. 30th, Cottagecookville, N. H.; Milton, Fla.; Vevay, Ind.; Monticello, Iowa; Cleveland, Ohio; Utica, Wis.; Duluth, Minn.; Leavenworth, Kansas; Boise City, Idaho. 31st, Vevay, Ind.; Brookhaven, Miss., Bellefontaine and Cleveland, Ohio; Newcastle, Pa.; Indianapolis, Ind.; North Platte, Neb.

Zodiacal Light.—Southington, Conn., 7th; Monticello, Iowa, 12th, 13th, 14th, 29th, 30th; Jacksonburg, Ohio, 10th, 15th, 25th; Savannah, Ga., 1st, 8th, 9th, 28th.

Earthquakes.—9th, Sacramento, Cal.; lasting one minute; oscillations E. and W.; buildings sensibly shaken. 14th, Memphis, Tenn.; vibrations from SW. or W. to NE. or E., buildings rocked somewhat. 15th, Carbondale, Ill.; consisting of three shocks, which appeared to come from the west, continuing about five seconds. 17th, Rivér Du Loup, Quebec, Can.

Volcanoes.—A volcanic eruption supposed to have originated in Cotopaxi, Ecuador, South America spread desolation over the valleys of Chile and Tumbaca. A frightful noise was heard at Latacunga, followed by tremendous floods in the valleys of Cutuehi, San Felipe, Yanyanco and Hacienda, carrying away cattle and bridges. All the haciendas on both sides of the river suffered enormously and the destruction is said to have been terrible and complete.